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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,448	12/04/2001	Patrick Carl Wiley	1078 0093	9609

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EXAMINER	
PECHHOLD, ALEXANDRA K	
ART UNIT	**PAPER NUMBER**
3671	

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/000,448	WILEY, PATRICK CARL	
	Examiner	Art Unit	
	Alexandra K Pechhold	3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Cata-Groove: Snow Plow Resistant Thermoplastic Marking Material" (July 1998) in view of Stowell et al (US 5,215,402).

Regarding claim 1, Cata-Groove discloses a method wherein grooves are "installed by sawing or grinding into the finished pavement surfaces to the dimensions and shapes specified" (page 2 of 5, Section 3.1.2). After this step of groove installation, the method in Cata-Groove comprises application of a thermoplastic road marking compound into the grooves that have been formed in the pavement surface to provide a pavement marking that will provide superior durability in those traffic areas that are exposed to excessive snow plowing (page 1 of 5, section 1), thereby disclosing applicant's steps (d), (e), and (f). Cata-Groove fails to disclose applicant's steps: (a) providing a first template, (b) impressing the first template into the asphalt surface when the asphalt is in a pliable state to form an impression, and (c) removing the first template from the asphalt surface to expose the impression.

Stowell teaches imprinting a predefined pattern in freshly rolled asphalt surface with a pliable, grid-like template and then lifting the template to allow the asphalt to harden with a pattern thereon (see abstract and Fig. 2), thereby teaching applicant's method steps (a), (b), and (c). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the steps of sawing or grinding to create the shapes and dimensions in Cata-Groove with the steps of providing a first template having a predetermined pattern, impressing the first template into the asphalt surface when the asphalt is pliable, and removing the first template to expose an impression, as taught by Stowell, since Stowell states in column 1, lines 15-62 that prior art methods and apparatus for imprinting surface patterns are known but have disadvantages unlike the method of imprinting freshly rolled asphalt surfaces with a template to simulate the aesthetically pleasing features of cobblestones, interlocking pacing stones, and the like.

Regarding claim 2, Stowell discloses positioning grid (10) on a freshly roller asphalt surface (12) while it is still hot and pliable (Col 2, lines 64-66).

Regarding claims 3, 4, and 5, Cata-Groove discloses in section 3.2.2 (page 2 of 5) that the thermoplastic compound shall be heated from 350-420 degrees F and shall be a minimum of 350 degrees F as it makes contact with road surface during application.

Regarding claim 6, Cata-Groove discloses a pre-formed thermoplastic grid, in that the thermoplastic material is packaged and contained for application (section 4.), thereby pre-formed, and upon application forms a grid, defined by Merriam Webster's

Collegiate Dictionary (10th Ed.) as "a network of uniformly spaced horizontal and perpendicular lines; *also*: something resembling such a network" which can be viewed as the end-result road marking.

Regarding claim 7, the thermoplastic material application of Cata-Groove is of a unitary construction, viewed as a road marking made by an uninterrupted, continuous application or resulting in a unitary construction in its finished state.

Regarding claim 8, Cata-Groove discloses in section 3.3.2 that retroreflective glass spheres are dispensed immediately behind the thermoplastic application device. By the nature that they are retroreflective, their color will contrast with the color of the asphalt.

Regarding claim 9, Cata-Groove discloses in section 3.3.2 that retroreflective glass spheres are dispensed immediately behind the thermoplastic application device. Being retroreflective, the beads can be viewed as a light source for illuminating the template.

Regarding claims 10 and 11, Cata-Groove discloses in section 3.3.2 that retroreflective glass spheres are dispensed immediately behind the thermoplastic application device. Being retroreflective, the beads can be viewed as luminescent or fluorescent.

Regarding claim 12, Cata-Groove discloses in section 3.4 (page 3 of 5) that the top of the line will protrude at least 30 mils above the top plane of the pavement surface, which meets the claimed recitation of "*substantially flush* with the surface of the asphalt when the second template is fixed in position."

Regarding claim 14, Cata-Groove discloses in section 3.4 (page 3 of 5) that the top of the line will protrude at least 30 mils above the top plane of the pavement surface, which meets the claimed recitation of "the upper surface projects above the surface of the asphalt when the second template is fixed in position."

Regarding claim 15, Cata-Groove discloses the frame elements having a width less than 12 inches, as disclosed in section 3.4 (page 3 of 5) where the finished marking widths are listed, two of which are less than 12 inches.

Regarding claim 16, Cata-Groove fails to disclose the frame elements having a width between ¼ inch and 1 inch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the size of the markings in Cata-Groove to be between ¼ inch and 1 inch, since if smaller road markings were desired for a particular application, the grooves and finished markings would therefore have to be smaller, and it has also be held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller,* 105 USPQ 233.

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over "Cata-Groove" (July 1998) and Stowell et al (US 5,215,402) as applied to claim 1 above, and further in view of Kawasaki (US 4,889,666). The combination of Cata-Groove and Stowell fails to disclose the upper surface of the second template recessed below the surface of the asphalt when the second template is fixed in position. Kawasaki teaches a method for producing concrete products provided with inlaid patterns, with the final step of grinding the surface of the block to remove excess

ornamenting or coloring material from the surface of the block to thereby produce a finished product with an inlaid pattern on the surface (see English abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method in Cata-Groove with the steps in Stowell to include the upper surface of the second template recessed below the surface of the asphalt when the second template is fixed in position as taught by Kawasaki, since Kawasaki states that the final step of grinding the surface removes excess ornamenting or coloring material from the surface of the block to thereby produce a finished product with an inlaid pattern on the surface.

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4. Claims 1, 2, 6-13, 15, and 16 are also rejected under 35 U.S.C. 103(a) as being unpatentable over "3M Guidelines for Pavement Marking Applications in Grooved Pavement Surfaces: Information Folder 5.18 Grooving Applications" (March 2000) in view of Stowell et al (US 5,215,402).

Regarding claim 1, the 3M Guidelines document (hereinafter referred to as simply 3M) discloses a method comprising grooving the pavement and then applying tape or liquid pavement markings in the grooves, thereby disclosing applicant's steps (d), (e), and (f). 3M fails to disclose applicant's steps: (a) providing a first template, (b) impressing the first template into the asphalt surface when the asphalt is in a pliable state to form an impression, and (c) removing the first template from the asphalt surface to expose the impression.

Stowell teaches imprinting a predefined pattern in freshly rolled asphalt surface with a pliable, grid-like template and then lifting the template to allow the asphalt to harden with a pattern thereon (see abstract and Fig. 2), thereby teaching applicant's method steps (a), (b), and (c). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the grooving step in 3M with the steps of providing a first template having a predetermined pattern, impressing the first template into the asphalt surface when the asphalt is pliable, and removing the first template to expose an impression, as taught by Stowell, since Stowell states in column 1, lines 15-62 that prior art methods and apparatus for imprinting surface patterns are known but have disadvantages unlike the method of imprinting freshly rolled asphalt surfaces with a template to simulate the aesthetically pleasing features of cobblestones, interlocking pacing stones, and the like.

Regarding claim 2, Stowell discloses positioning grid (10) on a freshly roller asphalt surface (12) while it is still hot and pliable (Col 2, lines 64-66).

Regarding claim 6, 3M discloses a pre-formed thermoplastic grid, in that the material is contained in a spray gun applicator and upon application forms a grid, defined by Merriam Webster's Collegiate Dictionary (10^{th} Ed.) as "a network of uniformly spaced horizontal and perpendicular lines; *also*: something resembling such a network" which can be viewed as the end-result road marking.

Regarding claim 7, the pavement marking application of 3M is of a unitary construction, viewed as any road marking made by an uninterrupted, continuous application or resulting in a unitary construction in its finished state.

Regarding claim 8, 3M discloses on page 6 that the liquid markings consist of two-component, 100% solids polyurea coating material with reflective elements and glass beads. By the nature that they are retroreflective, their color will contrast with the color of the asphalt.

Regarding claim 9, 3M discloses on page 6 that the liquid markings consist of two-component, 100% solids polyurea coating material with reflective elements and glass beads. Being reflective, the beads can be viewed as a light source for illuminating the template.

Regarding claims 10 and 11, 3M discloses on page 6 that the liquid markings consist of two-component, 100% solids polyurea coating material with reflective elements and glass beads. Being reflective, the beads can be viewed as luminescent or fluorescent.

Regarding claim 12, 3M discloses in Table 1 on page 2 that the required groove depth for liquid pavement markings is 40 mils +/-10 mils for a 15 mil LPM application, which thereby results in a minimal difference between the top surface of the LPM and asphalt surface, which meets the claimed recitation of "said upper surface is *substantially flush* with the surface of said asphalt when said second template is fixed in position."

Regarding claim 13, 3M discloses in Table 1 on page 2 that the required groove depth for liquid pavement markings is 40 mils +/-10 mils for a 15 mil LPM application, which thereby results in the upper surface of the second template (LPM application) being recessed below the surface of the asphalt when the LPM is fixed in position.

Regarding claims 15 and 16, 3M discloses frame elements meeting the claimed recitation of having a width less than 12 inches, or a width between ¼ inch and 1 inch, since Cata-Groove discloses in page 2 that the groove width shall be greater than or equal to 1 inch, thereby resulting in a pavement marking falling within the claimed ranges.

5. Claims 3-5 and 14 are also rejected under 35 U.S.C. 103(a) as being unpatentable over "3M Guidelines for Pavement Marking Applications in Grooved Pavement Surfaces: Information Folder 5.18 Grooving Applications" (March 2000) and Stowell et al (US 5,215,402) as applied to claim 1 above, and further in view of "Cata-Groove: Snow Plow Resistant Thermoplastic Marking Material" (July 1998).

Regarding claims 3-5, the combination of 3M and Stowell fails to disclose the step of heating the second template to cause it to bond to the asphalt surface, and wherein the second template is heated to a temperature within the range of approximately 100-400 degrees F or 150-350 degrees F. Cata-Groove teaches in section 3.2.2 (page 2 of 5) that a thermoplastic compound for pavement marking shall be heated from 350-420 degrees F and shall be a minimum of 350 degrees F as it makes contact with road surface during application. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of 3M with the first template impression teaching of Stowell to include the step of heating the second template to cause it to bond to the asphalt surface, and wherein the second template is heated to a temperature within the range of approximately 100-400

degrees F or 150-350 degrees F as taught by Cata-Groove, since Cata-Groove states in section 3.2.2 that the heating aids in contact with the road surface.

Regarding claim 14, the combination of 3M and Stowell fails to disclose the upper surface of the second template projecting above the surface of the asphalt when the second template is fixed in position. Cata-Groove teaches in section 3.4 (page 3 of 5) that the top of the line will protrude at least 30 mils above the top plane of the pavement surface, which meets the claimed recitation of "the upper surface projects above the surface of the asphalt when the second template is fixed in position." It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of 3M with the first template impression teaching of Stowell to include the upper surface of the second template projecting above the surface of the asphalt when the second template is fixed in position as taught by Cata-Groove, since the desired height of the second template depends on the specific application and conditions to achieve the desired effect, and hence would be ascertained by the operator.

Allowable Subject Matter

6. Prosecution on the merits of this application is reopened on claims 1-16 considered unpatentable in light of the prior art used to reject the claims as indicated above.

7. Applicant is advised that the Notice of Allowance mailed 7/15/03 is vacated. If the issue fee has already been paid, applicant may request a refund or request that the

fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

8. The indicated allowability of claims 1-16 is withdrawn in view of the newly discovered references 3M Guidelines for Pavement Marking Applications in Grooved Pavement Surfaces: Information Folder 5.18 Grooving Applications" (March 2000), Stowell et al (US 5,215,402), "Cata-Groove: Snow Plow Resistant Thermoplastic Marking Material" (July 1998), and Kawasaki (US 4,889,666). Rejections based on the newly cited references are above.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Thomas B. Will
Supervisory Patent Examiner
Group 3600

AKP
5/25/04